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10/621,489	07/18/2003	Robert Louis Cobene II	10011064-1	2048

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EXAMINER	
GOFF II, JOEN L	

ART UNIT	PAPER NUMBER
1791	

NOTIFICATION DATE	DELIVERY MODE
06/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/621,489	COBENE, ROBERT LOUIS	
	Examiner	Art Unit	
	John L. Goff	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29 and 31-44* is/are pending in the application.

4a) Of the above claim(s) *1-25,29,31 and 34-44* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-28,32 and 33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed on 3/14/08.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishige et al. (U.S. Patent 5,246,325) in view of Boss (U.S. Pre-Grant Publication 2001/0019691) and Capriz et al. (U.S. Patent Application Publication 2002/0167795) or Colbert et al. (U.S. Patent 6,385,044).

Morishige discloses a method of bonding an assembly of plural sheets to form a book-like structure comprising contacting a translatable first contacting surface (107 of Figure 12) to a backed hot melt adhesive sheet (110 and 112 of Figure 12) located on a spine surface of the assembly of plural sheets (111 of Figure 12), the spine surface being perpendicular to a planar surface of the assembly of plural sheets, applying force with at least a translatable second contacting surface (opposite to 107 of Figure 12) mounted for movement with the first contacting surface to the planar surface in an area where the backed hot melt adhesive sheet contacts the planar surface, and actively withdrawing heat from the backed hot melt adhesive sheet wherein at least the translatable first contacting surface has an angled leading edge adapted to contact a protruding end portion of the backed hot melt adhesive sheet at an offset angle (Figure 12 and Column 5, lines 64-68 and Column 6, lines 1-52).

Regarding the limitation of actively withdrawing heat from the backed hot melt adhesive sheet to bring a temperature of a hot melt adhesive of the backed hot melt adhesive sheet from above a glass transition temperature of the hot melt adhesive to below the glass transition temperature of the adhesive, Morishige teaches the hot melt adhesive of the backed hot melt adhesive sheet is heated and melted considered heated to a temperature above the glass transition temperature of the hot melt adhesive and then actively cooled to solidify the hot melt adhesive considered actively withdrawing heat from the backed hot melt adhesive sheet to bring a temperature of a hot melt adhesive of the backed hot melt adhesive sheet from above a glass transition temperature of the hot melt adhesive to below the glass transition temperature of the adhesive. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that heating to melt the hot melt adhesive and actively cooling to solidify the hot melt adhesive as taught by Morishige would have included actively withdrawing heat from the backed hot melt adhesive sheet to bring a temperature of the hot melt adhesive of the backed hot melt adhesive sheet from above a glass transition temperature of the hot melt adhesive to below the glass transition temperature of the adhesive otherwise the melted hot melt adhesive would not be solidified after active cooling.

Regarding the limitation of actively withdrawing heat using a heat sink based on an active cooling device, which is one of a Peltier device, a device having an internal circulating medium, and a device based on a Joule-Thomson effect, Morishige teaches the hot melt adhesive is cooled via an unshown cooling means it being noted providing a heat sink for dissipating heat from a heated surface is well known including during bookbinding as shown by Boss wherein it is further well known in providing a heat sink that a heat sink having an internal circulating

medium for cooling is more efficient than a heat sink that is air cooled by natural or forced convection as shown by Capriz (Paragraphs 004 and 0005) or Colbert (Column 5, lines 10-19). More specifically, Boss discloses a method of binding a plurality of sheets to form a book-like structure comprising providing an assembly of plural sheets (14 of Figure 2) including an adhesive portion along the spine and planar surface of the assembly (12 of Figure 2), providing a clamping jaw (22 of Figure 2) comprising an actively cooled heat sink (30 of Figure 2) attached to, i.e. connected to, and in thermal communication with a contacting surface (28 of Figure 2), displacing the clamping jaw at a distance greater than the thickness of the assembly of plural sheets, translating the clamping jaw to apply pressure to the planar surface of the assembly of plural sheets, applying heat to the clamping body to melt the adhesive, and then withdrawing heat from the assembly of plural sheets and the clamping body through the actively cooled heat sink to form the book-like structure (Figure 2 and Paragraph 17). Boss teaches including the actively cooled heat sink within the clamping jaw allows rapid heating and cooling of the assembly of plural sheets and clamping body (Paragraph 17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the cooling means taught by Morishige a heat sink within the clamping jaw (i.e. attached to and in thermal communication with the first and second contacting surfaces) as providing a heat sink for dissipating heat from a heated surface is well known including during bookbinding as shown by Boss which allows rapid heating and cooling of the assembly wherein it would have been further obvious to use as the particular heat sink one having an internal circulating medium for cooling as is more efficient than a heat sink that is air cooled by natural or forced convection as shown by Capriz or Colbert.

4. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishige, Boss, and Capriz or Colbert as applied to claims 26-28 above, and further in view of Kuramoto et al. (U.S. Pre-Grant Publication 2002/0064437).

Morishige, Boss, and Capriz or Colbert as applied above teach all of the limitations in claims 32 and 33 except for a specific teaching of attaching the backed hot melt adhesive sheet to the spine surface of the assembly of plural sheets by softening discrete points of the sheet by heating to a temperature above the glass transition temperature of the hot melt adhesive. Kuramoto discloses a method of binding a plurality of sheets to form a book-like structure comprising providing an assembly of plural sheets, contacting a hot melt adhesive sheet to a spine surface of the assembly of plural sheets, melting the hot melt adhesive sheet at discrete points to soften the sheet which is considered to include raising a temperature of the hot melt adhesive above a glass transition temperature of the adhesive, and tack the hot melt adhesive sheet to the spine to prevent displacement of the hot melt adhesive sheet during subsequent processing steps, and then bonding the hot melt adhesive sheet to the spine using a clamping apparatus including an active cooling means to form the book-like structure (Paragraphs 47, 49, and 50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Morishige as modified by Boss and Capriz or Colbert a step of tacking the backed hot melt adhesive sheet in discrete points to the spine of the assembly of plural sheets to prevent the backed hot melt adhesive sheet from displacing during clamping with the first and second bonding surfaces as shown by Kuramoto et al.

5. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka (U.S. Patent 6,024,525) in view of Boss, Clark (U.S. Patent 5,871,323), and Capriz or Colbert.

Yamanaka discloses a method of bonding an assembly of plural sheets to form a book-like structure comprising contacting a translatable first contacting surface (702 of Figure 2B) to a backed hot melt adhesive sheet (T, B1, and B2 of Figure 1) located on a spine surface of the assembly of plural sheets (307 of Figure 2B) to fold the protruding end portion of the backed hot melt adhesive sheet around the spine surface, the spine surface being perpendicular to a planar surface of the assembly of plural sheets, and applying force with at least a translatable second contacting surface (703 of Figure 2B) mounted for movement with the first contacting surface to the planar surface in an area where the backed hot melt adhesive sheet contacts the planar surface (Column 4, lines 51-67 and Column 5, lines 41-53). Yamanaka is silent as to including within the clamping jaw (e.g. between the first contacting surface 702 of Figure 1 and press 730 of Figure 1) an active cooling member. Boss discloses a method of binding a plurality of sheets to form a book-like structure comprising providing an assembly of plural sheets (14 of Figure 2) including an adhesive portion along the spine and planar surface of the assembly (12 of Figure 2), providing a clamping jaw (22 of Figure 2) comprising a press (26 of Figure 2), an actively cooled heat sink (30 of Figure 2) attached to, i.e. connected to, and in thermal communication with a contacting surface (28 of Figure 2), displacing the clamping jaw at a distance greater than the thickness of the assembly of plural sheets, translating the clamping jaw to apply pressure to the planar surface of the assembly of plural sheets, applying heat to the clamping body to melt the adhesive, and then withdrawing heat from the assembly of plural sheets and the clamping body through the actively cooled heat sink to form the book-like structure. Boss teaches

including the actively cooled heat sink within the clamping jaw allows rapid heating and cooling of the assembly of plural sheets and clamping body. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include within the clamping jaw (e.g. between the first and second contacting surfaces and press and also attached to an in thermal communication with the first and second contacting surfaces) taught by Yamanaka an active cooling member such as an actively cooled heat sink as shown by Boss to allow rapid heating and cooling of the assembly, and thus, decrease the time required for binding.

Regarding the limitation of removing heat from the hot melt adhesive sheet from above a glass transition temperature of the hot melt adhesive to below the glass transition temperature of the hot melt adhesive, it is noted the hot melt adhesive of the backed hot melt adhesive sheet taught by Yamanaka is heated to above its melt temperature considered above its glass transition temperature and then cooled as shown by Boss to form the book-like structure that is dimensionally stable, i.e. the adhesive is hardened which is considered actively cooled to a temperature below the glass transition temperature of the hot melt adhesive. In the event it is shown the limitation is not necessarily met the following rejection would also apply. It would have been obvious to one of ordinary skill in the art at the time the invention was made to perform Yamanaka as modified by Boss to actively cool the melted adhesive to its hardened temperature considered a temperature below the glass transition temperature of the adhesive from its melt temperature considered a temperature above the glass transition temperature of the adhesive to rapidly form a dimensionally stable book-like structure.

Regarding the limitation that at least the translatable first contacting surface has an angled leading edge adapted to contact a protruding end portion of the backed hot melt adhesive

sheet. It was known in bookbinding apparatus of the type taught by Yamanaka including first and second translatable contacting surfaces (28a and 28b of Figure 1) that the contacting surfaces include an angled leading edge for assisting in folding the protruding end portion of an adhesive backed cover sheet (26 of Figure 1) around the spine surface by contacting the protruding end portion at an offset angle as shown by Clark (Column 6, lines 17-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include on the first and second contacting surfaces taught by Yamanaka an angled leading edge for assisting in folding the protruding end portion of the backed hot melt adhesive sheet around the spine surface by contacting the protruding end portion at an offset angle as shown by Clark.

Regarding the limitation of actively withdrawing heat using a heat sink based on an active cooling device, which is one of a Peltier device, a device having an internal circulating medium, and a device based on a Joule-Thomson effect, it is well known in providing a heat sink that a heat sink having an internal circulating medium for cooling is more efficient than a heat sink that is air cooled by natural or forced convection as shown by Capriz (Paragraphs 004 and 0005) or Colbert (Column 5, lines 10-19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the particular heat sink in Yamanaka as modified by Boss one having an internal circulating medium for cooling as is more efficient than a heat sink that is air cooled by natural or forced convection as shown by Capriz or Colbert.

6. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka, Boss, Clark, and Capriz or Colbert as applied above in paragraph 5, and further in view of Kuramoto.

Yamanaka, Boss, Clark, and Capriz or Colbert as applied above teach all of the limitations in claims 32 and 33 except for a teaching of attaching the backed hot melt adhesive sheet to the spine surface of the assembly of plural sheets by softening discrete points of the sheet by heating to a temperature above the glass transition temperature of the hot melt adhesive. Kuramoto discloses a method of binding a plurality of sheets to form a book-like structure comprising providing an assembly of plural sheets, contacting a hot melt adhesive sheet to a spine surface of the assembly of plural sheets, melting the hot melt adhesive sheet at discrete points to soften the sheet which is considered to include raising a temperature of the hot melt adhesive above a glass transition temperature of the adhesive, and tack the hot melt adhesive sheet to the spine to prevent displacement of the hot melt adhesive sheet during subsequent processing steps, and then bonding the hot melt adhesive sheet to the spine using a clamping apparatus including an active cooling means to form the book-like structure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Yamanaka as modified by Boss, Clark, and Capriz or Colbert a step of tacking the backed hot melt adhesive sheet in discrete points to the spine of the assembly of plural sheets to prevent the backed hot melt adhesive sheet from displacing during clamping with the first and second bonding surfaces as shown by Kuramoto et al.

Response to Arguments

7. Applicant's arguments with respect to claims 26-28, 32, and 33 have been considered but are moot in view of the new ground(s) of rejection.

Claim 26 as amended requires "using a heat sink based on an active cooling device, which is one of a Peltier device, a device having an internal circulating medium, and a device based on a Joule-Thomson effect" which new limitation is addressed above.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/
Primary Examiner, Art Unit 1791